

ABSTRACT OF THE DISCLOSURE

5 An artificial disc replacement (ADR) that pivots along multiple, independent axes to accommodate both flexion/extension and lateral bending. In the preferred embodiment, the mechanism is a cruciate-shaped axle that allows independent movement along orthogonal axes, much like a “universal joint.” The ADR can be used as a standalone device that attaches to the vertebrae, or can be mobile and tethered by way of a “link member.” Friction between the axle and the top and bottom components can be reduced with needle-like roller bearings. Cushioning material, such as elastomerics, hydrogels, and other compressible resilient materials or springs may be used to control movement.